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Mineral Industry Surveys

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CHROMIUM IN JULY 2005

On the basis of gross weight, consumption of chromium ferroalloys and metal in July 2005 increased 6% compared with consumption in June 2005, according to the U.S. Geological Survey.

Included in this Mineral Industry Surveys are U.S. salient chromium statistics, U.S. Government stockpile inventory of chromium materials in July 2005, consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of July 2005, and U.S. foreign trade data for selected chromium-containing materials in June 2005.

Update

The Defense National Stockpile Center (DNSC) announced that 2,268 metric tons (t) of ferrochromium comprising 1,361 t of high-carbon ferrochromium and 907 t of low-carbon ferrochromium was sold in August at a value of $2.3 million or $0.46 per pound gross weight (Defense National Stockpile Center, 2005).

The Mississippi River is a major shipping route used by the U.S. steel industry to import raw materials. Hurricane Katrina, which struck the Gulf Coast of the United States at New Orleans, LA, on August 29 as a category 4 hurricane, disrupted Mississippi River traffic and damaged transportation and material handling facilities (Machalaba, 2005). In 2004, over 94% of imported ferrochromium, which is virtually all of U.S. supply, was imported through the customs district of New Orleans.

References Cited

Defense National Stockpile Center, 2005, Stockpile announces ferrochromium sales for August 2005: Defense National Stockpile Center, News Release DNSC-05-2660, September 6, 1 p.

Machalaba, Daniel, 2005, New Orleans to survey port damage: The Wall Street Journal, August 31, p. A6.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS[1]

(Metric tons, gross weight)

	2004	2005				
	January-December[2]	May	June	Second quarter	July	January-July[2]
Production:						
Stainless steel production[3]	2,000,000	212,000	200,000	562,000 [4]	137,000	1,350,000 [4]
Components of U.S. supply:						
Stainless steel scrap receipts	787,000	51,500	62,300	179,000	53,500	419,000
Stainless steel scrap consumption	1,120,000	78,300	85,000 [r]	258,000	81,100	607,000
Imports for consumption:						
Chromite ore	153,000	19,100	3,210	22,500	NA	62,200 [5]
Ferrochromium:						
More than 4% carbon	398,000	18,700	34,500	109,000	NA	226,000 [5]
More than 3% carbon but not more than 4% carbon	30	--	--	--	NA	18 [5]
More than 0.5%, but not more than 3% carbon	5,720	21	20	1,080	NA	3,510 [5]
Not more than 0.5% carbon	31,400	4,820	4,010	13,100	NA	24,200 [5]
Ferrochromium silicon	30,600	500	6,200	10,400	NA	20,600 [5]
Total ferroalloy imports	466,000	24,000	44,800	134,000	NA	275,000 [5]
Chromium metal[6]	9,650	991	1,070	3,100	NA	6,120 [5]
Stainless steel	811,000	65,700	63,900	196,000	NA	414,000 [5]
Stainless steel scrap	146,000	11,100	10,300	35,600	NA	67,400 [5]
Distribution of U.S. supply:						
Consumption, industry, chromium ferroalloys and metal	432,000	33,300	33,400	103,000	35,400	243,000
Exports:						
Chromite ore	43,100	5,040	516	12,500	NA	24,500 [5]
Chromium ferroalloys:						
High-carbon ferrochromium	6,580	578	633	1,790	NA	5,470 [5]
Low-carbon ferrochromium	1,410	76	143	322	NA	2,220 [5]
Ferrochromium silicon	1,150	--	--	8	NA	56 [5]
Total ferroalloy exports	9,140	653	776	2,120	NA	7,750 [5]
Chromium metal	931	64	91	240	NA	445 [5]
Stainless steel	323,000	37,600	34,600	111,000	NA	203,000 [5]
Stainless steel scrap	478,000	43,100	39,300	158,000	NA	296,000 [5]
Stocks at end of period:						
Consumer, industry, chromium ferroalloys and metal	XX	12,400	13,000	XX	11,900	XX
Government stockpile:						
Chromium ferroalloys	XX	546,000	513,000	XX	508,000	XX
Chromium metal	XX	6,190	6,190	XX	6,190	XX

[r]Revised. NA Not available. XX Not applicable. -- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Data on stainless steel production reported by American Iron and Steel Institute; monthly, quarterly, and year-to-date production of stainless and heat-resisting raw steel.

[4]Includes revised data that is not broken out by specific month.

[5]Includes January through June data; July data not available.

[6]Includes waste and scrap and other.

TABLE 2
U.S. REPORTED CONSUMPTION AND STOCKS
OF CHROMIUM PRODUCTS IN 2005[1, 2]

(Metric tons, gross weight unless otherwise noted)

	June	July	January-July[3]
Consumption by end use:			
Alloy uses:			
Iron alloys:			
Steel:			
Carbon steel	389	318	2,650
High-strength low-alloy steel	631	623	4,400
Stainless and heat-resisting steel	28,400	30,500	209,000
Full alloy steel	1,580	1,610	11,400
Electrical steel	W	W	W
Tool steel	453	435	3,140
Unspecified steel	W	W	W
Cast irons	W	W	W
Superalloys	887	819	5,880
Other alloys[4]	57	64	450
Total	33,400	35,400	243,000
Total, chromium content	19,400	20,700	142,000
Consumption by material:			
Low-carbon ferrochromium	1,820	1,930	13,400
High-carbon ferrochromium	28,000	29,700	205,000
Ferrochromium silicon	2,900	3,050	20,500
Chromium metal	458	467	3,050
Chromite ore	W	W	W
Chromium-aluminum alloy	26	30	208
Other chromium materials	W	W	W
Total	33,400	35,400	243,000
Total, chromium content	19,400	20,700	142,000
Consumer stocks:			
Low-carbon ferrochromium	2,080	1,940	XX
High-carbon ferrochromium	9,360	8,500	XX
Ferrochromium silicon	1,280	1,220	XX
Chromium metal	162 [r]	132	XX
Chromite ore	W	W	XX
Chromium-aluminum alloy	40	20	XX
Other chromium materials	W	W	XX
Total	13,000	11,900	XX
Total, chromium content	7,630	7,020	XX

[r]Revised. W Withheld to avoid disclosing company proprietary data; included in "Total."
XX Not applicable.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes estimates.

[3]May include revised data.

[4]Includes welding and alloy hard-facing rods and materials; wear- and corrosion-resistant alloys; and aluminum, copper, magnetic, nickel, and other alloys.

TABLE 3
U.S. GOVERNMENT STOCKPILE INVENTORY
OF CHROMIUM MATERIALS[1, 2]

(Metric tons)

Period	Chromium ferroalloys		Chromium metal
	High-carbon ferro-chromium	Low-carbon ferro-chromium	
2004:			
July	414,000	208,000	6,670
August	412,000	206,000	6,670
September	408,000	192,000	6,670
October	404,000	192,000	6,670
November	398,000	191,000	6,670
December	398,000	191,000	6,670
2005:			
January	386,000	190,000	6,190
February	378,000	188,000	6,190
March	368,000	187,000	6,190
April	359,000	187,000	6,190
May	359,000	187,000	6,190
June	331,000	182,000	6,190
July	328,000	180,000	6,190

[1]Data are rounded to no more than three significant digits.

[2]These Government stocks are reported by the Defense National Stockpile Center in Inventory of Stockpile Materials R-1, which reports uncommitted inventory. Uncommitted inventory is that inventory for which there is no sales contract. Committed inventory is that inventory for which there is a sales contract, however, the material has not yet been shipped. For chromium materials, the R-1 report includes chromium materials that (1) meet specifications and are held in excess of goal and (2) do not meet specifications and are held in excess of goal. The R-1 report excludes chromium materials that are committed and awaiting shipment.

Source: Defense National Stockpile Center.

TABLE 4

U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS, AND METAL[1]

Period	Chromite ore		Chromium ferroalloys[2]			Chromium metal[3]	
	Gross weight (metric tons)	Value (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value (thousands)	Gross weight (metric tons)	Value (thousands)
2004:							
June	11,000	$1,570	671	362	$931	79	$1,400
July	8,180	2,130	713	398	1,000	100	1,570
August	10,200	2,680	533	322	685	93	1,510
September	2,750	1,590	706	401	876	53	1,290
October	823	270	565	347	799	58	1,190
November	507	197	616	398	843	46	1,020
December	771	231	639	388	897	51	657
January-December	43,100	10,400	9,140	5,320	12,000	931	17,600
2005:							
January	2,550	618	427	257	610	103	1,070
February	1,540	404	2,150	1,330	2,910	35	796
March	7,910	1,310	3,050	1,850	4,070	66	983
April	6,930	1,820	686	419	913	85	1,580
May	5,040	923	653	402	804	64	1,190
June	516	190	776	486	1,010	91	1,520
January-June	24,500	5,270	7,750	4,740	10,300	445	7,140

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes low-, medium-, and high-carbon ferrochromium and ferrochromium silicon.

[3]Includes chromium metal waste and scrap and unwrought powders.

Source: U.S. Census Bureau.

TABLE 5

U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND CHROMIUM METAL[1]

(Metric tons)

	2004	2005		
	January-December[2]	May	June	January-June[2]
Chromite ore:				
More than 40% but less than 46% chromic oxide:				
Gross weight	1,690	96	88	596
Chromic oxide content	761	44	40	272
46% or more chromic oxide:				
Gross weight	151,000	19,000	3,130	61,600
Chromic oxide content	71,600	9,130	1,450	28,900
Total, all grades:				
Gross weight	153,000	19,100	3,210	62,200
Chromic oxide content	72,400	9,180	1,490	29,100
Ferrochromium:				
Low-carbon:[3]				
Not more than 0.5%:				
Gross weight	31,400	4,820	4,010	24,200
Chromium content	21,100	3,320	2,810	16,600
More than 0.5% but not more than 3%:				
Gross weight	5,720	21	20	3,510
Chromium content	3,830	15	12	2,280
Total, low-carbon:				
Gross weight	37,100	4,850	4,030	27,700
Chromium content	24,900	3,330	2,820	18,900
Medium-carbon:[4]				
Gross weight	30	--	--	18
Chromium content	16	--	--	NA
High-carbon:[5]				
Gross weight	398,000	18,700	34,500	226,000
Chromium content	223,000	10,900	21,300	134,000
Total, all grades:				
Gross weight	435,000	23,500	38,600	254,000
Chromium content	248,000	14,200	24,200	153,000
Chromium metal:				
Unwrought powders	1,350	64	85	423
Waste and scrap	94	--	--	14
Other than waste and scrap and unwrought powders	8,200	928	981	5,680
Total, all grades	9,650	991	1,070	6,120

NA Not available. -- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Ferrochromium containing not more than 3% carbon.

[4]Ferrochromium containing more than 3% carbon but not more than 4% carbon.

[5]Ferrrochromium containing more than 4% carbon.

Source: U.S. Census Bureau.

TABLE 6

U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2005, BY GRADE AND BY COUNTRY[1]

Grade and country	June			January-June[2]		
	Gross weight (metric tons)	Chromium content (metric tons)	Value[3] (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value[3] (thousands)
High-carbon ferrochromium:[4]						
China	--	--	--	13	8	$11
Kazakhstan	15,500	10,800	$16,400	63,900	44,300	67,000
Russia	3,470	2,310	3,350	26,700	17,600	23,200
South Africa	11,000	5,560	7,450	101,000	51,400	64,800
Zimbabwe	4,550	2,680	3,630	34,300	20,400	27,800
Total	34,500	21,300	30,900	226,000	134,000	183,000
Medium-carbon ferrochromium[5], China	--	--	--	18	NA	41
Low-carbon ferrochromium:[6]						
More than 0.5% but not more than 3% carbon:						
India	--	--	--	20	13	17
Kazakhstan	--	--	--	850	587	1,350
Russia	--	--	--	1,830	1,240	2,030
South Africa	20	12	28	810	446	905
Total	20	12	28	3,510	2,280	4,300
Not more than 0.5% carbon:						
China	--	--	--	4	3	11
France	--	--	--	4	3	8
Germany	480	334	926	2,750	1,930	5,190
Japan	280	195	749	1,200	838	3,190
Kazakhstan	527	358	845	2,100	1,430	3,180
Russia	2,720	1,920	4,570	18,000	12,300	26,200
South Africa	--	--	--	208	105	93
Turkey	--	--	--	4	2	8
Total	4,010	2,810	7,090	24,200	16,600	37,900
All grades:						
China	--	--	--	35	31	63
France	--	--	--	4	3	8
Germany	480	334	926	2,750	1,930	5,190
India	--	--	--	20	13	17
Japan	280	195	749	1,200	838	3,190
Kazakhstan	16,000	11,100	17,300	66,900	46,400	71,500
Russia	6,200	4,230	7,920	46,500	31,100	51,400
South Africa	11,100	5,580	7,480	102,000	51,900	65,800
Turkey	--	--	--	4	2	8
Zimbabwe	4,550	2,680	3,630	34,300	20,400	27,800
Total	38,600	24,200	38,000	254,000	153,000	225,000

NA Not available. -- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

[4]Ferrochromium containing more than 4% carbon.

[5]Ferrochromium containing more than 3% but not more than 4% carbon.

[6]Ferrochromium containing not more than 3% carbon.

Source: U.S. Census Bureau.

TABLE 7

U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2005, BY GRADE AND BY COUNTRY[1]

Grade and country	June		January-June[2]	
	Gross weight (metric tons)	Value[3] (thousands)	Gross weight (metric tons)	Value[3] (thousands)
Unwrought powders:				
China	39	$265	67	$532
France	3	26	6	78
Germany	5	25	13	147
Japan	17	777	178	3,980
Korea, Republic of	--	--	1	22
Malaysia	1	6	1	6
Russia	20	117	100	518
Spain	--	--	57	248
Sweden	--	--	(4)	3
United Kingdom	(4)	65	1	213
Total	85	1,280	423	5,750
Waste and scrap:				
Australia	--	--	2	11
Germany	--	--	3	51
Japan	--	--	9	120
Total	--	--	14	183
Other than waste and scrap and unwrought powders:				
Austria	--	--	(4)	4
China	104	751	1,310	6,300
France	254	2,170	1,310	10,300
Germany	11	103	29	247
India	--	--	1	5
Italy	--	--	4	38
Japan	5	7	30	1,060
Russia	410	7,920	2,070	20,500
United Kingdom	196	1,240	925	5,890
Total	981	12,200	5,680	44,400
All grades:				
Australia	--	--	2	11
Austria	--	--	(4)	4
China	143	1,020	1,380	6,830
France	257	2,200	1,310	10,400
Germany	16	128	46	446
India	--	--	1	5
Italy	--	--	4	38
Japan	22	784	217	5,160
Korea, Republic of	--	--	1	22
Malaysia	1	6	1	6
Russia	430	8,040	2,170	21,000
Spain	--	--	57	248
Sweden	--	--	(4)	3
United Kingdom	196	1,300	926	6,100
Total	1,070	13,500	6,120	50,300

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

[4]Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 8

U.S. TRADE OF STAINLESS STEEL, BY PRODUCT, IN 2005[1]

Stainless steel product	June		January-June	
	Gross weight (metric tons)	Value[2] (thousands)	Gross weight (metric tons)	Value[2] (thousands)
Exports:				
Ingot	753	$3,510	4,340	$23,100
Flat-rolled (width > 600 mm)	16,500	46,200	93,100	255,000
Flat-rolled (width < 600 mm)	10,400	35,300	66,300	238,000
Bars and rods in irregular coils	555	1,920	3,040	8,980
Other bars and rods	2,160	14,100	14,900	80,200
Wire	506	3,980	2,920	22,100
Tubes, pipes, hollow profiles	3,760	19,400	18,700	103,000
Total	34,600	124,000	203,000	731,000
Stainless steel scrap	39,300	50,000	296,000	327,000
Grand total	73,900	174,000	500,000	1,060,000
Imports:				
Ingot	11,600	34,000	87,900	242,000
Flat-rolled (width > 600 mm)	22,900	64,300	154,000	414,000
Flat-rolled (width < 600 mm)	4,050	15,500	21,700	84,800
Bars and rods in irregular coils	3,710	10,700	23,100	65,800
Other bars and rods	9,480	35,700	54,400	211,000
Wire	3,490	17,100	20,800	91,300
Tubes, pipes, hollow profiles	8,700	51,200	51,800	280,000
Total	63,900	229,000	414,000	1,390,000
Stainless steel scrap	10,300	12,300	67,400	77,400
Grand total	74,300	241,000	481,000	1,470,000

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Export value is free alongside ship (f.a.s.). Import value is Customs import value, which generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.